



**BRUHATH BANGALORE MAHANAGARA PALIKE
BYATARAYANAPURA DIVISION**

**Name of Work: - Improvements of Roads, Drains,
Footpath and Parks in ward no 08. (Package
includes 11 works of Rs 1010 Lakhs)**

10TH and Part Bill

TEST REPORTS



**TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS**

No.58 MIG, 6th Cross, 3rd Main

1st Stage, Basaveshwaranagar

Bangalore-560079

☎ 080 - 23287532

email: tejusconsultants@gmail.com

No. TC / BBMP / BYT-PMC / 498/ 20-21

To
The Executive Engineer
Byatarayanapura Divison
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

Date:

Dear Sir

Sub: 10th RA bill for the work of Improvements to Roads, Drains, Footpath and Park in ward no.08, Bytarayanapura Division (Package includes 11 Works of Rs 1010 lakhs)

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the 9th RA bill submitted by Sri.Pramodh M/s Karthik Enterprises, No. 123, Aiswaraya, 3rd Cross, Ramannaa Garden, Vidyaranyapura, Bangalore - 97, towards the above said work and arrived at an amount of Rs. 1,93,53,831 (Rupees One Crore Ninety Three Lakh Fifty Three Thousand Eight Hundred Thirty one Rupees Only). The work has been completed satisfactorily.

This is for your kind information.

Thank you and assuring you the best of our Services at all the times


For Tejus Consultants
(Nischal M)

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)					
Client	Bruhat Bengaluru Mahanagara Palike					
Consultant	TEJUS CONSULTANTS, BANGALORE					
Contractor	M/s Karthik Enterprises					
AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)						
Proposed Use	WMM	Date of Sampling	05-01-2021			
Sample Location	Amco Layout	Date of Testing	05-01-2021			
Sl. No.	Description		Test No.			Spec Limit (%)
			1	2	3	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	360.00	367.00	340.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	265.00	275.00	254.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	95.00	92.00	86.00	
4	Aggregate Impact Value (%)	$(Wc/Wa) \times 100$	26.39	25.07	25.29	
5	Average Aggregate impact value	(%)	25.58			Max - 30 %
Remarks : Satisfactory / Not Satisfactory						
Note: 1. The report shall not be reproduced, except in full, without the written approval of the laboratory. 2. The results indicated above are based on the tests carried out on the samples received in the laboratory. 3. Any Query regarding the report must be reported within 15 days from the date of testing. 4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.						

Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 082

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/s Karthik Enterprises

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		WMM		Proposed Use	WMM
Sample Location				Date of Sampling	05-01-2021
				Date of Testing	05-01-2021
Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	680	80	534	78
16.0	12.5	1300	110	1102	125
12.5	10.0	180	60	740	60
10.0	6.3	615	50	580	50
Total		2775	300	2956	313

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.81
Elongation Index(%):	10.59
Combined FI+EL (%)	21.40

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Amulya N D

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

Consultant's Representative

Name of Work	:	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	M/s Karthik Enterprises
Date of Testing	:	05-01-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:		Date of Sampling:	04-01-2021
		Date of testing:	05-01-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	395	395	3.95	96.05	95-100
22.4	2365	2760	27.60	72.40	60-80
11.2	2520	5280	52.80	47.20	40-60
4.75	1480.0	6760	67.60	32.40	25-40
2.36	815.0	7575	75.75	24.25	15-30
0.6	860.0	8435	84.35	15.65	8.0-22.0
0.075	996.0	9431	94.31	5.69	0-8
Pan	569.0	10000			
Total	10000.0				

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Consultant's Representative

Abhilash N.D

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092



Name of Work	:	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	M/s Karthik Enterprises
Date of Testing	:	06-01-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 1

GRADATION FOR WMM

(As per MORT&H 400-11)

Sample Location:		Date of Sampling:	05-01-2021
		Date of testing:	06-01-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	380	370	3.70	96.30	95-100
22.4	1790	2160	21.60	78.40	60-80
11.2	2270	4430	44.30	55.70	40-60
4.75	2220.0	6650	66.50	33.50	25-40
2.36	1400.0	8050	80.50	19.50	15-30
0.6	780.0	8830	88.30	11.70	8.0-22.0
0.075	885.0	9715	97.15	2.85	0-8
Pan	285.0	10000			
Total	10000.0				

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Anil K. N.D.

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

Consultant's Representative

KERB STONE (CORE) TEST REPORT

Name of Work	:	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	:	Bruhat Bengaluru Mahanagara Palike
Contractor	:	M/s Karthik Enterprises
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
No. of Sample Tested	:	3
Date of Testing	:	22/01/2021
Technical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M ₁₅

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m ³)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm ²)	Correction Factor for the Dia. (Strength)	Corrected Cylinder Compressive Strength (N/mm ²)	Equivalent Cube Compressive Strength
1	50.00	85.00	0.385	2306.81	1.70	0.960	29.68	15.12	16.33	15.67	19.59
2	50.00	85.00	0.395	2366.73	1.70	0.960	29.95	15.25	16.47	15.81	19.77
3	50.00	85.00	0.388	2324.79	1.70	0.960	29.85	15.20	16.42	15.76	19.70

Note:

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2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 90 days from the date of testing.

Consultant's Representative

Handwritten Signature
Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

Test Report on Cement				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)			
Client	Bruhat Bangalore Mahanagar Palike			
Consultant	TEJUS CONSULTANTS			
Contractor	M/s Karthik Enterprises			
Sample ID	Cement (ACC Cement) OPC 43 Grade			
Date of Sample Tested	28/01/2021			
Sample Supplied By	Agency			
Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	107 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	479 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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Authorised Signatory

M. M. U. N. D

C. S. D.
Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagar Palike
Bangalore - 560 082

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/s Karthik Enterprises

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))

	Date: 26-01-2021	
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	200	300
Wt. of wet material from hole (Ww) gms.	5990	5978
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10595
Wt. of sand in hole+ cone (w3) gms.	4405	4405
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3325
Bulk density of sand (γ_s) gm/cc	1.32	1.32
Bulk density of material (i.e. wt. of the wet material) (γ_b) = $(Ww/w4 * (\gamma_s))$ gm/cc	2.38	2.37
Moisture meter reading (moisture content)	6.30	6.30
Result		
FDD (Wt. of the dry material) = $(100\gamma_b / 100 + mc)$ gm/cc	2.24	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.55	98.35
% compaction required	98%	98%

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Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

CONSULTANTS		
Project	Improvements of Roads,Drains, Footpath and Parks in ward no 08 (Package includes 11 works of Rs 1010 Lakhs)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	M/s Karthik Enterprises	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))		
	Date:	26-01-2021
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	100	150
Wt. of wet material from hole (Ww) gms.	5978	5983
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10592
Wt. of sand in hole+ cone (w3) gms.	4405	4408
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3328
Bulk density of sand (γ_s)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γ_b)=(Ww/w4*(γ_s))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100 γ_b /100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.26	98.44
% compaction required	98%	98%
Note:		

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Consultant's Representative

Abhijit N.D

Assistant Executive Engg.
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

K. P. R.

TEST REPORT					
Clients	Bruhath Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/s Karthik Enterprises				
Total Weight in gm:	3000				
SIEVE ANALYSIS					
Type of Material	40 mm down size			Proposed Use	PCC
Sample Location	Sanjeevinagar			Date of Sampling	28/01/2021
				Date of Testing	28/01/2021
IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	78	78	2.60	97.40	95-100
20.00mm	1382	1460	48.67	51.33	30-70
10.00mm	982	2442	81.40	18.60	10-35
4.75mm	482	2924	97.47	2.53	0-5
Pan	76	3000	100.00	0.00	
Remarks : ✓ Satisfactory / Not Satisfactory					
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					 Authorised Signatory

Asst. Eng. N.D

Assistant Executive
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 082

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	Tejus Consultants, Bangalore
Contractor	M/s Karthik Enterprises

SIEVE ANALYSIS

Total Weight:	3000 gms				
Type of Material	M sand	Proposed Use	PCC		
Sample Location	Sanjeevininagar	Date of Sampling	28/01/2021		
		Date of Testing	28/01/2021		
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	232	232	7.73	92.27	90 - 100
2.36 mm	254	486	16.20	83.80	75 - 100
1.18 mm	502	988	32.93	67.07	55 - 90
0.600 mm	554	1542	51.40	48.60	35 - 59
0.300 mm	815	2357	78.57	21.43	8-30
0.150 mm	402	2759	91.97	8.03	0 - 10
Pan	241	3000			-

Remarks :

Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 082

TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material		M sand		Proposed Use		PCC	
Location/Source		Sanjeevininagar		Date of Sampling		28/01/2021	
Period of Soaking		24 hours		Date of Testing		29-01-2021	
Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3		
A	Weight of sturated surface dry sample gm.		660	642	643		
B	Weight of oven - dry sample gm.		652	634	635		
C	Weight of Pycnometer Filled with water gm		1275	1275	1275		
D	Weight of Pycnometer + sample + water gm		1685	1680	1680		
E	Bulk specific gravity B (C + A - D)		2.608	2.675	2.668	2.650	
G	Absorption (%) (A - B) *100 B		1.227	1.262	1.260	1.250	

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 Assistant Executive Engineer
 Kodigehalli Sub Division
 Bruhat Bangalore Mahanagara Palike
 Bangalore - 560 082

Amulya N.D

PAVER BLOCK(COBBLE STONE) TEST REPORT				
Client	Bruhat Bangalore Mahanagara Palike			
Name of Work:	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)			
Contractor:	M/s Karthik Enterprises			
No.of Sample Tested:	3			
Date of Testing:	12/02/2021			
Technical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.			
Sl. No.	Details	FLEXURAL STRENGTH, f_{cr} in N/mm^2	Charecteristic Copressive strength f_{ck} in N/mm^2	Average Charecteristic Copressive strength f_{ck} in N/mm^2
1	Paver Block	3.77	29.00	28.40
2	Paver Block	3.70	28.00	
3	Paver Block	3.72	28.20	

Results: Copressive strength of Paver Block(N/mm^2)=	28.40
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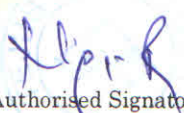
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Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
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Consultant's Representative

Test Report on Cement				
Project	Improvements to Roads, drains, footpath and park in ward no.08, Bytarayanapura Division (Package includes 11 Works of Rs 1010 lakhs)			
Client	Bruhat Bangalore Mahanagar Palike			
Consultant	TEJUS CONSULTANTS			
Contractor	M/s Karthik Enterprises			
Sample ID	Cement (ACC Cement) OPC 43 Grade			
Date of Sample Tested	19/02/2021			
Sample Supplied By	Agency			
Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	111 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	450 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35
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Consultant	TEJUS CONSULTANTS			
Contractor	M/s Karthik Enterprises			
Sample ID	Cement (ACC Cement) OPC 43 Grade			
Date of Sample Tested	19/02/2021			
Sample Supplied By	Agency			
Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	108 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	447 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35
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Ashly N.D


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 Bangalore - 560 092

TEST REPORT					
Clients	Bruhath Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/s Karthik Enterprises				
Total Weight in gm:	3000				
SIEVE ANALYSIS					
Type of Material	40 mm down size			Proposed Use	PCC
Sample Location	Sanjeevininagar			Date of Sampling	19/02/2021
				Date of Testing	19/02/2021
IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	85	85	2.83	97.17	95-100
20.00mm	1398	1483	49.43	50.57	30-70
10.00mm	988	2471	82.37	17.63	10-35
4.75mm	430	2901	96.70	3.30	0-5
Pan	99	3000	100.00	0.00	
Remarks :  Satisfactory / Not Satisfactory					
Note: 1. The report shall not be reproduced, except in full, without the written approval of the laboratory. 2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site. 3. Any Query regarding the report must be reported reported within 15days from the date of testing. 4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.					
Assistant Executive Engineer Kodigehalli Sub Division Bruhat Bangalore Mahanagara Palike Bangalore - 560 092					 Authorised Signatory

Atul N-D

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	Tejus Consultants, Bangalore
Contractor	M/s Karthik Enterprises

SIEVE ANALYSIS

Total Weight:	3000 gms				
Type of Material	M sand	Proposed Use	PCC		
Sample Location	Sanjeevininagar	Date of Sampling	19/02/2021		
		Date of Testing	19/02/2021		
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	200	200	6.67	93.33	90 - 100
2.36 mm	310	510	17.00	83.00	75 - 100
1.18 mm	420	930	31.00	69.00	55 - 90
0.600 mm	485	1415	47.17	52.83	35 - 59
0.300 mm	750	2165	72.17	27.83	8-30
0.150 mm	620	2785	92.83	7.17	0 - 10
Pan	215	3000			-

Remarks :

Satisfactory / Not Satisfactory

Note:

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material		M sand		Proposed Use		PCC	
Location/Source		Sanjeevininagar		Date of Sampling		19/02/2021	
Period of Soaking		24 hours		Date of Testing		20-02-2021	
Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3		
A	Weight of sturated surface dry sample gm.		668	654	670		
B	Weight of oven - dry sample gm.		660	646	661		
C	Weight of Pycnometer Filled with water gm		1275	1275	1275		
D	Weight of Pycnometer + sample + water gm		1694	1685	1690		
E	Bulk specific gravity $\frac{B}{(C + A - D)}$		2.651	2.648	2.592	2.630	
G	Absorption (%) $\frac{(A - B) * 100}{B}$		1.212	1.238	1.362	1.271	

Note:

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	Tejus Consultants, Bangalore
Contractor	M/s Karthik Enterprises

SIEVE ANALYSIS

Total Weight:	3000 gms				
Type of Material	M sand	Proposed Use	PCC		
Sample Location	Sanjeevininagar	Date of Sampling	20/02/2021		
		Date of Testing	20/02/2021		
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	225	225	7.50	92.50	90 - 100
2.36 mm	330	555	18.50	81.50	75 - 100
1.18 mm	510	1065	35.50	64.50	55 - 90
0.600 mm	525	1590	53.00	47.00	35 - 59
0.300 mm	830	2420	80.67	19.33	8-30
0.150 mm	400	2820	94.00	6.00	0 - 10
Pan	180	3000			-

Remarks :

Satisfactory / Not Satisfactory

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Bangalore - 560 092

TEST REPORT					
Clients	Bruhath Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/s Karthik Enterprises				
Total Weight in gm:	3000				
SIEVE ANALYSIS					
Type of Material	40 mm down size			Proposed Use	PCC
Sample Location	Sanjeevininagar			Date of Sampling	20/02/2021
				Date of Testing	20/02/2021
IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	70	70	2.33	97.67	95-100
20.00mm	1400	1470	49.00	51.00	30-70
10.00mm	800	2270	75.67	24.33	10-35
4.75mm	600	2870	95.67	4.33	0-5
Pan	130	3000	100.00	0.00	
Remarks : Satisfactory / Not Satisfactory					
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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Name of Work	:	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Contractor	:	M/s Karthik Enterprises
No. of Sample Tested	:	3
Date of Testing	:	27-02-2021
Technical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M20, 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m ³)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm ²)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm ²)	Equivalent Cube Compressive Strength (N/mm ²)
1	50.00	90.00	0.456	2580.43	1.80	0.960	39.40	20.07	21.67	20.80	26.01
2	50.00	90.00	0.461	2608.73	1.80	0.960	39.65	20.19	21.81	20.94	26.17
3	50.00	90.00	0.470	2659.66	1.80	0.960	39.70	20.22	21.84	20.96	26.20

Note:

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4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.


 Consultant's Representative

Atul K. N.D

C.P.D.
 Assistant Executive Engineer
 Kodigehalli Sub Division
 Bruhat Bangalore Mahanagara Palike
 Bangalore - 560 092

Test Report on Compressive strength of Solid Block

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Cross sectional area	80000mm ²
Size of cube	400mm x 150 mm x 200mm
No. of Block Tested	1
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Obtained Average compressive strength	Minimum Required compressive strength of individual units
			mm ²	KN	N/mm ²	N/mm ²	N/mm ²
1	10/03/2021	10/03/2021	60000	406.00	6.77	6.73	5.00
2	10/03/2021	10/03/2021	60000	402.00	6.70		
3	10/03/2021	10/03/2021	60000	404.00	6.73		

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M. N. Y.

Assistant Executive Engineer
Kodigehalli Sub Division
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Bangalore - 560 092

Authorised Signatory



TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS				
Contractor	M/s Karthik Enterprises				
Total Weight:	10000	gms			
SIEVE ANALYSIS					
Type of Material	12.5 mm down size		Proposed Use	Concrete	
Sample Location	At Site/Plant		Date of Sampling	20/04/2021	
			Date of Testing	20/04/2021	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	542	542	5.42	94.58	90-100
10.0	4625	5167	51.67	48.33	40-85
4.75	4523	9690	96.90	3.10	0-10
Pan	310	10000			
Remarks :  Satisfactory / Not Satisfactory					
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Bangalore - 560 092

M. H. N. D.

TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/s Karthik Enterprises				
Total Weight:	10000	gms			
SIEVE ANALYSIS					
Type of Material	20 mm down size		Proposed Use	Concrete	
Sample Location	Plant/At site		Date of Sampling	20/04/2021	
			Date of Testing	20/04/2021	
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	270	270	2.70	97.30	95 - 100
10.00 mm	4850	5120	51.20	48.80	25 - 55
4.75 mm	4225	9345	93.45	6.55	0 - 10
Pan	655	10000			
Remarks : ☒ Satisfactory / Not Satisfactory					
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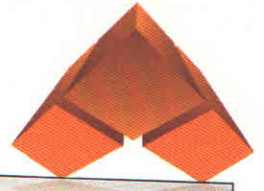
Handwritten Signature
 Assistant Executive Engineer
 Kodigehalli Sub Division
 Bruhat Bangalore Mahanagara Palike
 Bangalore - 560 092

Handwritten Signature
 M.M.Y. N.D

TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)				
Consultants	Tejus Consultants, Bangalore				
Contractor	M/s Karthik Enterprises				
SIEVE ANALYSIS					
Total Weight:	3000 gms				
Type of Material	Fine aggregate (River Sand/ M sand)		Proposed Use	concrete	
Sample Location	At Site/Plant		Date of Sampling	20/04/2021	
			Date of Testing	20/04/2021	
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	235	235	7.83	92.17	90 - 100
2.36 mm	315	550	18.33	81.67	75 - 100
1.18 mm	415	965	32.17	67.83	55 - 90
0.600 mm	490	1455	48.50	51.50	35 - 59
0.300 mm	715	2170	72.33	27.67	8-30
0.150 mm	630	2800	93.33	6.67	0 - 10
Pan	200	3000			-
Remarks : ✓ Satisfactory / Not Satisfactory					
Note: 1. The report shall not be reproduced, except in full, without the written approval of the laboratory. 2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site. 3. Any Query regarding the report must be reported reported within 15days from the date of testing.					
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M. N. D.


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 Bangalore - 560 082



Test Report on Cement

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes works of Rs 1010 Lakhs)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Sample ID	Cement
Date of Sample Tested	20/04/2021
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	102	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	458	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5.000	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

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Kodigehalli Sub Division
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Asmly. N.D

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material		Fine aggregate (River Sand/ M sand)		Proposed Use		concrete	
Location/Source		At Site/Plant		Date of Sampling		20/04/2021	
Period of Soaking		24 hours		Date of Testing		21.04-2021	
SL No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	↓	
A	Weight of sturated surface dry sample gm.		654	685	662		
B	Weight of oven - dry sample gm.		646	674	654		
C	Weight of Pycnometer Filled with water gm		1275	1275	1275		
D	Weight of Pycnometer + sample + water gm		1685	1690	1690		
E	Bulk specific gravity	$\frac{B}{(C + A - D)}$	2.648	2.496	2.648	2.597	
G	Absorption (%)	$\frac{(A - B) * 100}{B}$	1.238	1.632	1.223	1.365	

Note:

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M. N. D.

TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)				
Consultants	Tejus Consultants, Bangalore				
Contractor	M/s Karthik Enterprises				
SIEVE ANALYSIS					
Total Weight:	3000 gms				
Type of Material	Fine aggregate (River Sand/ M sand)		Proposed Use	concrete	
Sample Location	At Site/Plant		Date of Sampling	21/04/2021	
			Date of Testing	21/04/2021	
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	230	230	7.67	92.33	90 - 100
2.36 mm	300	530	17.67	82.33	75 - 100
1.18 mm	410	940	31.33	68.67	55 - 90
0.600 mm	482	1422	47.40	52.60	35 - 59
0.300 mm	710	2132	71.07	28.93	8-30
0.150 mm	625	2757	91.90	8.10	0 - 10
Pan	243	3000			-
Remarks : Satisfactory / Not Satisfactory					
Note: 1. The report shall not be reproduced, except in full, without the written approval of the laboratory. 2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site. 3. Any Query regarding the report must be reported within 15 days from the date of testing.					
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TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/s Karthik Enterprises				
Total Weight:	10000	gms			
SIEVE ANALYSIS					
Type of Material	20 mm down size	Proposed Use	Concrete		
Sample Location	Plant/At site	Date of Sampling	21/04/2021		
		Date of Testing	21/04/2021		
IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	275	275	2.75	97.25	95 - 100
10.00 mm	4855	5130	51.30	48.70	25 - 55
4.75 mm	4330	9460	94.60	5.40	0 - 10
Pan	540	10000			
Remarks : ✓ Satisfactory / Not Satisfactory					
Note: 1. The report shall not be reproduced, except in full, without the written approval of the laboratory. 2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site. 3. Any Query regarding the report must be reported reported within 15days from the date of testing.					


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Amey. N. D

TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)				
Consultants	TEJUS CONSULTANTS				
Contractor	M/s Karthik Enterprises				
Total Weight:	10000	gms			
SIEVE ANALYSIS					
Type of Material	12.5 mm down size		Proposed Use	Concrete	
Sample Location	At Site/Plant		Date of Sampling	21/04/2021	
			Date of Testing	21/04/2021	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	552	552	5.52	94.48	90-100
10.0	4002	4554	45.54	54.46	40-85
4.75	5000	9554	95.54	4.46	0-10
Pan	446	10000			
Remarks : ☒ Satisfactory / Not Satisfactory					
Note: 1. The report shall not be reproduced, except in full, without the written approval of the laboratory. 2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site. 3. Any Query regarding the report must be reported reported within 15days from the date of testing.					
			 Authorised Signatory		

Amulya. ND

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material		Fine aggregate (River Sand/ M sand)		Proposed Use		concrete	
Location/Source		At Site/Plant		Date of Sampling		21/04/2021	
Period of Soaking		24 hours		Date of Testing		22-04-2021	
Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3		
A	Weight of sturated surface dry sample gm.		652	680	660		
B	Weight of oven - dry sample gm.		642	670	650		
C	Weight of Pycnometer Filled with water gm		1275	1275	1275		
D	Weight of Pycnometer + sample + water gm		1685	1703	1690		
E	Bulk specific gravity $\frac{B}{(C + A - D)}$		2.653	2.659	2.653	2.655	
G	Absorption (%) $\frac{(A - B) * 100}{B}$		1.558	1.493	1.538	1.530	

Note:

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3. Any Query regarding the report must be reported reported within 15days from the date of testing.


Authorised Signatory


Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092


M. N. D.

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm ²	KN	N/mm ²	N/mm ²
1	21/04/2021	19/05/2021	28 days	8.132	22500	680	30.22	30.30
2	21/04/2021	19/05/2021	28 days	8.140	22500	682	30.31	
3	21/04/2021	19/05/2021	28 days	8.142	22500	683	30.36	

Note:

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Authorised Signatory


Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092


M. N. D.

Project	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)		
Client	Bruhat Bangalore Mahanagar Palike		
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore		
Contractor	M/s Karthik Enterprises		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date	10-09-2020		
Layer no. or level	Embarkment top layer		
Depth of hole	200mm		
Field density:	1	2	3
Wt. of wet material from hole (Ww) gms.	5810	5800	5780
Wt. of sand+cylinder before pouring (w1) gms.	14535	14535	14535
Wt. of sand+cylinder after pouring (w2) gms.	9665	9640	9650
Wt. of sand in cone (w3) gms.	875	875	875
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3995	4020	4010
Bulk density of sand (ys)gm/cc	1.316	1.316	1.316
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	1.91	1.90	1.90
Moisture meter reading(moisture content)	10.10	10.20	10.00
Result			
FDD(Wt.of the dry material)=(100yb/100+mc)gm/cc	1.74	1.72	1.72
MDD	1.81	1.81	1.81
OMC	10.20%	10.20%	10.20%
% compaction obtained	96.04	95.19	95.27
% compaction required	95%	95%	95%

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Project	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)		
Client	Bruhat Bangalore Mahanagar Palike		
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore		
Contractor	M/s Karthik Enterprises		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date	15-09-2020		
Layer no. or level	Embarkment top layer		
Depth of hole	200mm		
Field density:	1	2	3
Wt. of wet material from hole (Ww) gms.	5700	5770	5690
Wt. of sand+cylinder before pouring (w1) gms.	14535	14535	14535
Wt. of sand+cylinder after pouring (w2) gms.	9708	9698	9702
Wt. of sand in cone (w3) gms.	875	875	875
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3952	3962	3958
Bulk density of sand (γs)gm/cc	1.316	1.316	1.316
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	1.90	1.92	1.89
Moisture meter reading(moisture content)	10.10	10.20	10.00
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	1.72	1.74	1.72
MDD	1.81	1.81	1.81
OMC	10.20%	10.20%	10.20%
% compaction obtained	95.25	96.09	95.02
% compaction required	95%	95%	95%

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Project	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)		
Client	Bruhat Bangalore Mahanagar Palike		
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore		
Contractor	M/s Karthik Enterprises		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date	20-09-2020		
Layer no. or level	Embarkment top layer		
Depth of hole	200mm		
Field density:	1	2	3
Wt. of wet material from hole (Ww) gms.	5700	5750	5650
Wt. of sand+cylinder before pouring (w1) gms.	14535	14535	14535
Wt. of sand+cylinder after pouring (w2) gms.	9700	9668	9760
Wt. of sand in cone (w3) gms.	875	875	875
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3960	3992	3900
Bulk density of sand (γ_s)gm/cc	1.316	1.316	1.316
Bulk density of material(i.e. wt. of the wet material) (γ_b)=(Ww/w4*(γ_s))gm/cc	1.89	1.90	1.91
Moisture meter reading(moisture content)	10.10	10.20	10.00
Result			
FDD(Wt.of the dry material)=(100 γ_b /100+mc)gm/cc	1.72	1.72	1.73
MDD	1.81	1.81	1.81
OMC	10.20%	10.20%	10.20%
% compaction obtained	95.05	95.03	95.76
% compaction required	95%	95%	95%

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Project	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)		
Client	Bruhat Bangalore Mahanagar Palike		
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore		
Contractor	M/s Karthik Enterprises		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date	17-09-2020		
Layer no. or level	Embarkment top layer		
Depth of hole	200mm		
Field density:	1	2	3
Wt. of wet material from hole (Ww) gms.	5750	5778	5660
Wt. of sand+cylinder before pouring (w1) gms.	14535	14535	14535
Wt. of sand+cylinder after pouring (w2) gms.	9680	9660	9725
Wt. of sand in cone (w3) gms.	875	875	875
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3980	4000	3935
Bulk density of sand (ys)gm/cc	1.316	1.316	1.316
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	1.90	1.90	1.89
Moisture meter reading(moisture content)	10.10	10.20	10.00
Result			
FDD(Wt.of the dry material)=(100yb/100+mc)gm/cc	1.73	1.73	1.72
MDD	1.81	1.81	1.81
OMC	10.20%	10.20%	10.20%
% compaction obtained	95.41	95.30	95.07
% compaction required	95%	95%	95%

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PLASTIC LIMIT TEST IS: 2720 (Part-V)					
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 (Package includes 11 works of Rs 1010 Lakhs)				
Client	BRUHAT BANGALORE MAHANAGARA PALIKE				
Consultant	M/s Tejus Consultants				
Contractor	M/s Karthik Enterprises				
Proposed Use	Road		Date of Sampling	20-09-2020	
Location	Sanjeevinagar		Date of Testing	21-09-2020	
Period Of Dried in Oven	24	Hour			
Sl. No.	Description	Test No.			Max %
1	Water Content in %	2%	4%	6%	
2	Number of Blows	17	23	27	
3	Container Number	A	B	C	
4	Weight of Container W_0 gm	26.10	21.86	23.91	
5	Weight of Container + Wet Soil (W_1) gm	32.29	34.74	30.15	
6	Weight of Container + Oven Dried Soil (W_2) gm	31.20	32.51	29.06	
7	Weight of Water ($W_1 - W_2$) gm	1.09	2.23	1.09	
8	Weight of Oven - Dry Soil ($W_2 - W_0$) gm	5.10	10.65	5.15	
9	Water Content $W = \frac{W_1 - W_2}{W_2 - W_0} \times 100$	21.37	20.94	21.17	25.00%
		21.16			
Average of the water content is the PLASTIC LIMIT of the soil.					
Result	Plastic Limit of Soil Sample Is	21.16	%		
Remarks :					
Satisfactory / Not Satisfactory					

Note:

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LIQUID LIMIT TEST IS: 2720 (Part-V)							
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)						
Client	BRUHAT BANGALORE MAHANAGARA PALIKE						
Consultant	M/s Tejus Consultants						
Contractor	M/s Karthik Enterprises						
Proposed Use	Road			Date of Sampling	20-09-2020		
Location	Sanjeevinagar			Date of Testing	21-09-2020		
Period Of Dried in Oven	24			Hour			
Sl. No.	Description	Test No.				Max %	
1	Water Content in %	2%	4%	6%	8%		
2	Number of Blows	17	23	27	34		
3	Container Number	A	B	C	D		
4	Weight of Container W ₀ gm	20.18	21.37	21.45	21.56		
5	Weight of Container + Wet Soil (W ₁) gm	36.85	35.23	35.40	35.80		
6	Weight of Container + Oven Dried Soil (W ₂) gm	33.52	32.46	32.65	33.00		
7	Weight of Water (W ₁ -W ₂) gm	3.33	2.77	2.75	2.80		
8	Weight of Oven - Dry Soil (W ₂ -W ₀) gm	13.34	11.09	11.20	11.44		
9	Water Content $W = \frac{W_1 - W_2}{W_2 - W_0} \times 100$	24.96	24.98	24.55	24.48	25.00%	
Note:- Plot a Graph between Water Content and Number of Blows Note Down the Moisture Content Corresponding to 25 Number of Blows i.e the Liquid limit of soil							
Result	Liquid Limit of Soil Sample Is			31.50	%		
Remarks :							
Satisfactory / Not Satisfactory							

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Arthuf. N.D

Assistant Executive Engineer
Kodigehalli Sub Division
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Alpik R

PLASTIC LIMIT TEST IS: 2720 (Part-V)			
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	M/s Karthik Enterprises		
Sl. No.	Physical Properties of Materials of Granular Sub-Base	Value	Unit
1	Aggregate Impact Value	27.29	%
2	Liquid Limit	31.50	%
3	Plastic Limit	21.16	%
4	Plasticity Index	10.34	%
Remarks :		Satisfactory / Not Satisfactory	


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PLASTIC LIMIT TEST IS: 2720 (Part-V)					
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)				
Client	BRUHAT BANGALORE MAHANAGARA PALIKE				
Consultant	M/s Tejus Consultants				
Contractor	M/s Karthik Enterprises				
Proposed Use			Date of Sampling	20-09-2020	
Location			Date of Testing	21-09-2020	
Period Of Dried in Oven	24	Hour			
Sl. No.	Description	Test No.			Max %
1	Water Content in %	2%	4%	6%	
2	Number of Blows	17	23	27	
3	Container Number	A	B	C	
4	Weight of Container W ₀ gm	26.10	21.86	23.91	
5	Weight of Container + Wet Soil (W ₁) gm	31.65	30.00	31.00	
6	Weight of Container + Oven Dried Soil (W ₂) gm	31.00	29.00	30.15	
7	Weight of Water (W ₁ -W ₂) gm	0.65	1.00	0.85	
8	Weight of Oven - Dry Soil (W ₂ -W ₀) gm	4.90	7.14	6.24	
9	Water Content $W = \frac{W_1 - W_2}{W_2 - W_0} \times 100$	13.27	14.01	13.62	
	Average of the water content is	13.63			
Remarks : Satisfactory / Not Satisfactory					

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Assistant Executive Engineer
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Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092



CONSULTANTS

Project	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	M/s Karthik Enterprises		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Sampling	20-09-2020		
Date of Testing	21-09-2020		
Layer no. or level	GSB layer		
Depth of hole	200mm		
Calibrating Container Properties			
Diameter	10.00	cm	
Area	78.50	cm ²	
Height	12.73	cm	
Volume of Calibrating Container = Area X Height	999.305	cm ³	
Volume V (nearly)	1000	cm ³	
Observation and Calculations	1	1	1
Volume of Calibrating Container V cm ³	1000	1000	1000
Wt of Cylinder + Sand (Before Pouring) W ₁ gm	7480	7490	7485
Mean Wt of Cylinder + Sand (After Pouring) W ₂ gm	5610	5615	5603
Mean Wt of Sand (Glass Plate) in Cone (of Pouring Cylinder) W ₃ gm	436	450	460
Wt. of sand to fill Clibrating Container is (W _a)=(W ₁ -W ₂ -W ₃) gms.	1434	1425	1422

Arthy. N.D

C/S
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Bulk density of sand ($\gamma_s = W_a/V$) gm/cc	1.43	1.43	1.42
Dry Density of Soil			
Wt of wet soil from hole W_w gm	2000	2010	2025
Wt of Cylinder + Sand (Before Pouring) W_1 gm	7460	7490	7485
Mean Wt of Cylinder + Sand (After Pouring) W_4 gm	5602	5615	5610
Wt of Sand in hole $W_b = (W_1 - W_4 - W_3)$	1422	1425	1415
Volume of hole is $V_h = W_b / \gamma_s$	991.6	1000.0	995.1
Bulk density of material(i.e. wt. of the wet material) (γ_b) = $(W_w / W_b) \times \gamma_s$ g/cm ³	2.02	2.01	2.04
Water Content of the Soil is w	13.63	13.63	13.63
Dry density of material(i.e. wt. of the wet material) (γ_d) = $(\gamma_b / 1+w)$ g/cm ³	1.77	1.77	1.79
Result			
FDD	1.77	1.77	1.79
MDD	1.80	1.80	1.80
OMC in %	13.63	13.63	13.63
% compaction obtained	98.61	98.27	99.49
% compaction required	98%	98%	98%

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Abhijit N.D

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AGGREGATE IMPACT VALUE IS: 2386 (Part-IV)						
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)					
Client	BRUHAT BANGALORE MAHANAGARA PALIKE					
Consultant	M/s Tejus Consultants					
Contractor	M/s Karthik Enterprises					
Proposed Use		Date of Sampling	21-09-2020			
Sample Location	At plant	Date of Testing	21-09-2020			
Period Of Dried in Oven	4 Hour	Temperature (100 to 110 C)	105 C			
Sl. No.	Description		Test No.			Spec Limit (%)
			1	2	3	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	A	360.00	385.00	385.00	↓
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	B	271.00	275.00	275.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	C	89.00	110.00	110.00	
4	Aggregate Impact Value (%)	C/A*100	24.72	28.57	28.57	
5	Average Aggregate impact value	(%)	27.29			Max - 40 %
Result :- Aggregate Impact Value is		27.29 %				

Remarks :

Satisfactory / Not Satisfactory

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M. N. D.

Assistant Executive Engineer
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Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

Authorised Signatory

CONSULTANTS

GRADATION FOR GSB (As per MORT&H 400-1)					
Name of Work	:	Improvements of Roads,Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)			
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant	:	M/s Tejus Consultants			
Contractor	:	M/s Karthik Enterprises			
Type of Mix	:	GSB			
Grade	:	V			
Sample I/D	:	GSB 1			
Sample Location:	At plant		Date of Sampling:	21-09-2020	
Type of material & Purpose:	For Road		Date of testing:	21-09-2020	
Oven Dry Wt.(gms):	10000.0				
IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	100.00
53	1500	1500	15.00	85.00	80-100
26.5	2212	3712	37.12	62.88	55-90
9.5	1400	5112	51.12	48.88	35-65
4.75	894	6006	60.06	39.94	25-50
2.36	2300	8306	83.06	16.94	10-20
0.85	1000	9306	93.06	6.94	2-10
0.425	400	9706	97.06	2.94	0-5
Pan	294.0				
Total	10000.0				

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Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/s Karthik Enterprises

MODIFIED PROCTOR TEST (IS 2720 - Part - 8)

Type of Material	Embankment			Proposed Use	Road
Sample Location	Sanjeevininagar			Date of Sampling	23/09/2020
				Date of Testing	24/09/2020

Observation					
Mould Diameter	15.00	cm			
Height	15.00	cm			
Volume	2,250.00	cm ³			
Weight	5450	gm			

Sl.No	Particulars No	Unit	I	II	III	V
-------	----------------	------	---	----	-----	---

Determination of Bulk Density of Soil

1	Percentage of Water Added (W_w) %	%	4%	5%	6%	7%
2	Volume of Mould (V)	cm ³	2,250.00	2,250.00	2,250.00	2,250.00
3	Weight of Empty Mould	gm	5450	5450	5450	5450
4	Weight of Mould + Compacted Soil	gm	9895	9990	10200	10100
5	Weight of Compacted Soil (W)	gm	4445	4540	4750	4650
6	Weight or Bulk Density $\rho = (W/V)$	gm/cm ³	1.976	2.018	2.111	2.067

	Container No		A1	A2	A3	A4
7	Weight of Empty Container (W_1)	gm	21.71	21.67	21.90	21.73
8	Weight of Cup + Wet Soil (W_2)	gm	102.77	98.00	98.00	94.46
9	Weight of Cup + Dry Soil (W_3)	gm	96.00	91.00	89.50	85.40
10	Weight of Water $W_4 = (W_2 - W_3)$	gm	6.77	7.00	8.50	9.06
10	Weight of Dry Soil $W_5 = (W_3 - W_1)$	gm	74.29	69.33	67.60	63.67
11	Moisture Content $w = W_4 / W_5$	%	9.11	10.10	12.57	14.23
12	Dry Density $\rho_d = \rho / (1 + w)$	gm/cm ³	1.81	1.83	1.88	1.81

Amulya N-D

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Kodigehalli Sub Division
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Karthik

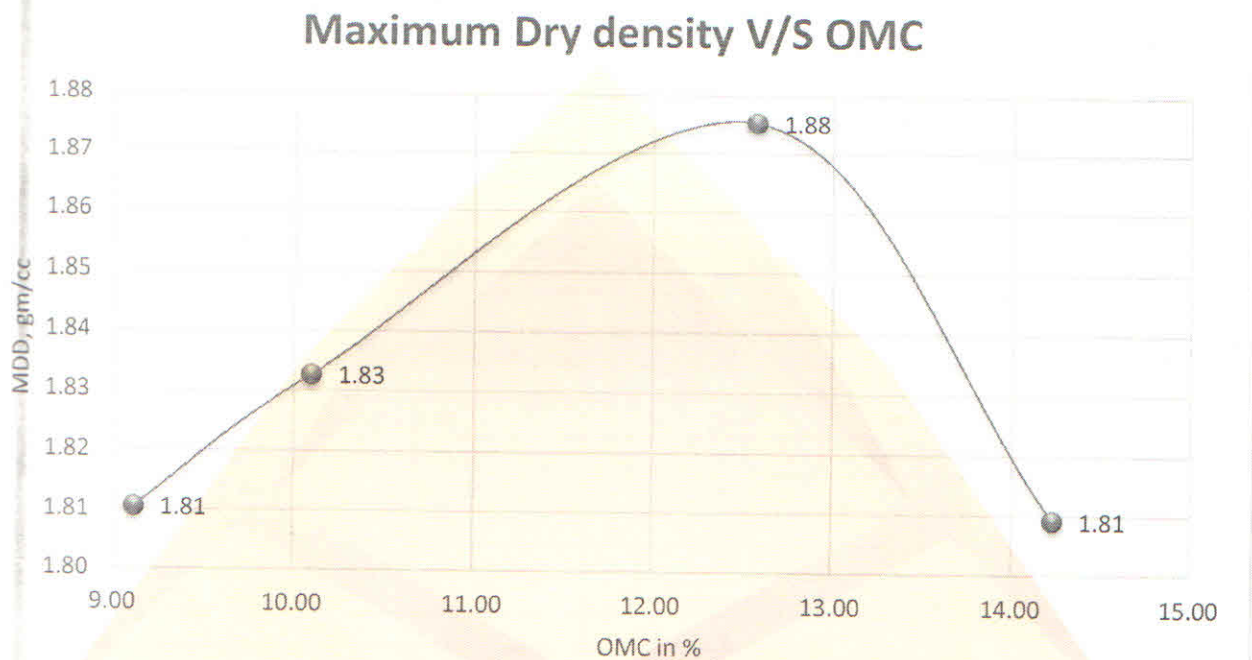


Figure: Graphical Representation of Density-Moisture Content Relationship

Result:

From the above figure,

Maximum Dry Density, MDD	1.88	gm/cm ³
Optimum Moisture Content (	12.50	%

Note:- Optimum Moisture Content Value Should be 10 to 12.5 %

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Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/s Karthik Enterprises

TEJUS
CONSULTANTS

CALIFORNIA BEARING RATIO (IS 2720 PART 16)

Type of Material	Red Soil	Proposed Use	Embankment
Sample Location	Sanjeevininagar	Date of Sampling	23/09/2020
		Date of Testing	24/09/2020
Proving ring	25 KN	Maximum Load	25 KN
Area of Plunger	19.61 cm ²	Proving Ring Factor	3.62 kg/1 Div
MDD:	1.88 gm/cm ³		
OMC:	12.5 %		

Sl.No	Particulars	Unit	Mould 1	Mould 2
Determination of Bulk Density of Soil				
1	Volume of Mould	cm ³	2652	2652
2	Weight of Empty Mould	gm	5450	5450
3	Weight of Mould + Compacted Soil	gm	11022	11045
4	Weight of Compacted Soil	gm	5572	5595
5	Weight Density (w/v)	gm/cm ³	2.101	2.110

Determination of Moisture Content and Dry Density of Soil				
6	Cup Number		10	11
7	Weight of Empty Cup	gm	60.00	60.00
8	Weight of Cup + Wet Soil	gm	62.56	69.65
9	Weight of Cup + Dry Soil	gm	62.32	68.69
10	Weight of Dry Soil	gm	2.32	8.69
11	Moisture Content	%	10.3	11.0
12	Dry Density	gm/cm ³	1.904	1.900

Penetration mm	Mould 1 Proving Ring Reading	Mould 2 Proving Ring Reading	Mould 3 Proving Ring Reading	Average Proving Ring Reading
0.0	0	0		0.0
0.5	4	4		4.0
1.0	7	8		7.5
1.5	9	9		9.0
2.0	13	13		13.0
2.5	18	17		17.5
3.0	23	22		22.5
4.0	26	25		25.5
5.0	30	26		28.0
7.5	32	28		30.0
10.0	33	29		31.0
12.5	34	32		33.0

Result:

From the above figure	PRR	Load	CBR
At 2.5 mm penrtation	17.5	98	7
At 5.0 mm penrtation	28.0	157	11
Soaked CBR value of the sample tested is %			11
Min. Required CBR Value in %			10

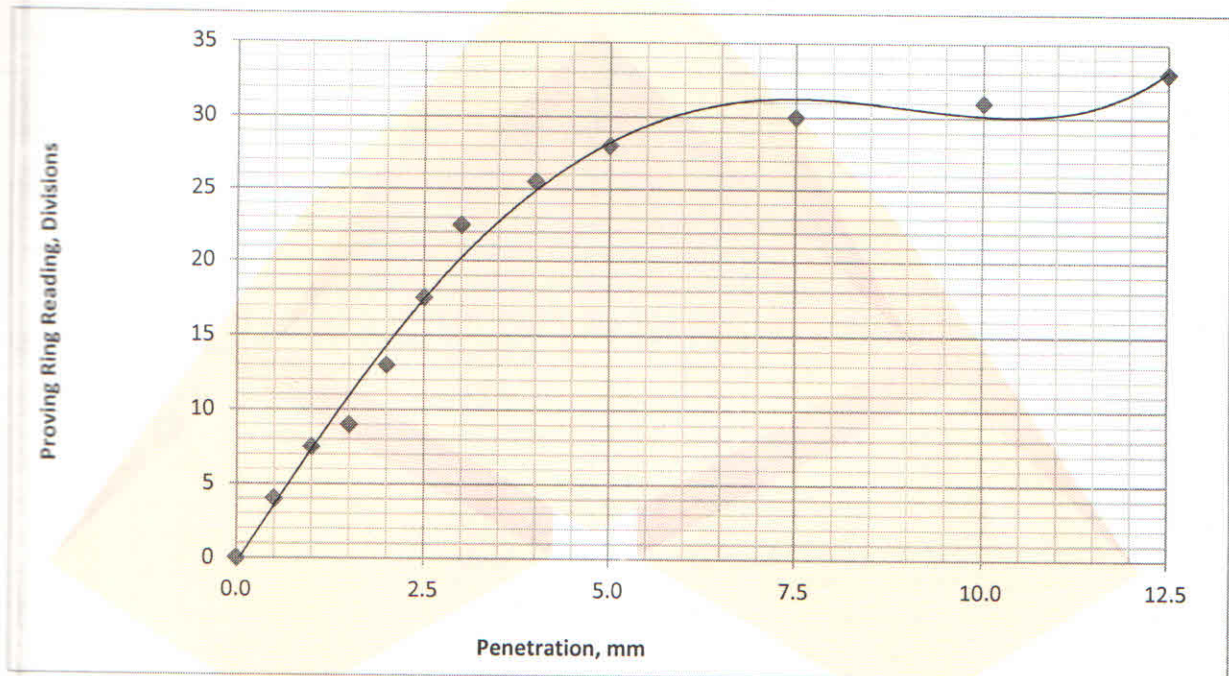
Amul N.D

Assistant Executive Engineer

Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEJUS CONSULTANTS

No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O: +91 80 23287532, tejusconsultants@gmail.com



M. Kalyan N.D
Department Engineer (AE/JE)

Consultant's Representative

S. S. S.
Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092



Name of Work	:	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	M/s Karthik Enterprises
Date of Testing	:	07-10-2020
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM

(As per MORT&H 400-11)

Sample Location:		Date of Sampling:	07-10-2020
		Date of testing:	07-10-2020
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	389	389	3.89	96.11	95-100
22.4	2346	2735	27.35	72.65	60-80
11.2	2488	5223	52.23	47.77	40-60
4.75	1466.0	6689	66.89	33.11	25-40
2.36	802.0	7491	74.91	25.09	15-30
0.6	815.0	8306	83.06	16.94	8.0-22.0
0.075	996.0	9302	93.02	6.98	0-8
Pan	698.0	10000			
Total	10000.0				

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Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

Name of Work	:	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	M/s Karthik Enterprises
Date of Testing	:	07-10-2020
Type of Mix	:	WMM
Sample I/D	:	WMM 1

GRADATION FOR WMM

(As per MORT&H 400-11)

Sample Location:		Date of Sampling:	07-10-2020		
Type of material & Purpose:	WMM	Date of testing:	07-10-2020		
		Oven Dry Wt.(gms):	10000.0		
IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	378	370	3.70	96.30	95-100
22.4	1795	2165	21.65	78.35	60-80
11.2	2269	4434	44.34	55.66	40-60
4.75	2015.0	6449	64.49	35.51	25-40
2.36	1396.0	7845	78.45	21.55	15-30
0.6	778.0	8623	86.23	13.77	8.0-22.0
0.075	880.0	9503	95.03	4.97	0-8
Pan	497.0	10000			
Total	10000.0				

Note:

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Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 082

TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material		M sand	Proposed Use		PCC
Location/Source		Sanjeevingar	Date of Sampling		26/10/2020
Period of Soaking		24 hours	Date of Testing		27-10-2020
Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	655	656	672	
B	Weight of oven - dry sample gm.	647	646	664	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1685	1685	1685	
E	Bulk specific gravity $\frac{B}{(C + A - D)}$	2.641	2.626	2.534	2.600
G	Absorption (%) $\frac{(A - B) * 100}{B}$	1.236	1.548	1.205	1.330
Note:					

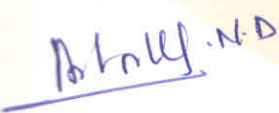
Note:

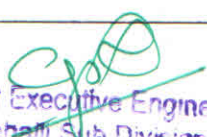
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A. K. N. D.

Authorised Signatory

(Signature)
Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 002

Test Report on Cement				
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)			
Client	Bruhat Bangalore Mahanagar Palike			
Consultant	TEJUS CONSULTANTS			
Contractor	M/s Karthik Enterprises			
Sample ID	Cement (ACC Cement) OPC 43 Grade			
Date of Sample Tested	27/10/2020			
Sample Supplied By	Agency			
Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	115 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	490 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35
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		 Authorised Signatory		


 Assistant Executive Engineer
 Kodigehalli Sub Division
 Bruhat Bangalore Mahanagar Palike
 Bangalore - 560 022

TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size			Proposed Use	PCC
Sample Location	Sanjeevininagar			Date of Sampling	27/10/2020
				Date of Testing	27/10/2020
IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007)
					% of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	80	80	2.67	97.33	95-100
20.00mm	1375	1455	48.50	51.50	30-70
10.00mm	980	2435	81.17	18.83	10-35
4.75mm	475	2910	97.00	3.00	0-5
Pan	90	3000	100.00	0.00	

Remarks :

✓ Satisfactory / Not Satisfactory

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Authorised Signatory


Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

M. N. D.

Test Report on Cement

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	02/11/2020
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	102 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	397 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	25 % to 35

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Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagar Palike
Bangalore - 560 092

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)
Consultants	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Total Weight:	10000 gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size		Proposed Use	CONCRETE	
Sample Location	At Plant		Date of Sampling	02-11-2020	
			Date of Testing	02-11-2020	
IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	536	536	5.36	94.64	90-100
10.0	3520	4056	40.56	59.44	40-85
4.75	5566	9622	96.22	3.78	0-10
Pan	378	10000			

Remarks :

✓ Satisfactory / Not Satisfactory

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As per N.D

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08. (Package includes 11 works of Rs 1010 Lakhs)							
Client	Bruhat Bangalore Mahanagar Palike							
Consultant	TEJUS CONSULTANTS							
Contractor	M/s Karthik Enterprises							
Grade of concrete:	M20							
Size of cube:	150x150x150 mm							
Reference IS code:	IS:516-1959							
Sample Location	Sanjeevinagar							
Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm ²	KN	N/mm ²	N/mm ²
1	02-11-2020	09-11-2020	7 days	8.133	22500	315	14.00	13.81
2	02-11-2020	09-11-2020	7 days	8.147	22500	310	13.78	
3	02-11-2020	09-11-2020	7 days	8.158	22500	307	13.64	
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Ashly N.D

K. Prasad
Authorised Signatory

C. S. D.
Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagar Palike
Bangalore - 560 092

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)							
Client	Bruhat Bangalore Mahanagar Palike							
Consultant	TEJUS CONSULTANTS							
Contractor	M/s Karthik Enterprises							
Grade of concrete:	M20							
Size of cube:	150x150x150 mm							
Reference IS code:	IS:516-1959							
Sample Location	Sanjeevinagar							
Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm ²	KN	N/mm ²	N/mm ²
1	02-11-2020	30-11-2020	28 days	8.157	22500	510	22.67	22.71
2	02-11-2020	30-11-2020	28 days	8.162	22500	508	22.58	
3	02-11-2020	30-11-2020	28 days	8.252	22500	515	22.89	
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								 Authorised Signatory

Amulya N.D

[Signature]
 Assistant Executive Engineer
 Kodigehalli Sub Division
 Bruhat Bangalore Mahanagar Palike
 Bangalore - 560 092

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Sanjeevinagar

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm ²	KN	N/mm ²	N/mm ²
1	03-11-2020	01-12-2020	28days	8.135	22500	505	22.44	22.46
2	03-11-2020	01-12-2020	28days	8.175	22500	502	22.31	
3	03-11-2020	01-12-2020	28days	8.135	22500	509	22.62	

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Authorised Signatory

Asst. Eng. N.D

C.D
Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagar Palike
Bangalore - 560 032

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Sanjeevinagar

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm ²	KN	N/mm ²	N/mm ²
1	03-11-2020	10-11-2020	7 days	8.152	22500	315	14.00	13.90
2	03-11-2020	10-11-2020	7 days	8.170	22500	312	13.87	
3	03-11-2020	10-11-2020	7 days	8.250	22500	311	13.82	

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Authorised Signatory

Abhinav N.D

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagar Palike
Bangalore - 560 092

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/s Karthik Enterprises

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))

	Date: 04-11-2020	
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	250.00	300.00
Wt. of wet material from hole (Ww) gms.	5995	5977
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10589	10598
Wt. of sand in hole+ cone (w3) gms.	4411	4402
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3331	3322
Bulk density of sand (γ_s) gm/cc	1.32	1.32
Bulk density of material (i.e. wt. of the wet material) (γ_b) = $(Ww/w4 * (\gamma_s))$ gm/cc	2.38	2.37
Moisture meter reading (moisture content)	6.40	6.20
Result		
FDD (Wt. of the dry material) = $(100\gamma_b / 100 + mc)$ gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.36	98.52
% compaction required	98%	98%

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M. H. D.

Consultant's Representative

Assistant Executive Engineer
Kodigenalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 .(Package includes 11 works of Rs 1010 Lakhs)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	M/s Karthik Enterprises	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))		
	Date: 04-11-2020	
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	150.00	200.00
Wt. of wet material from hole (Ww) gms.	5990	5978
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10595
Wt. of sand in hole+ cone (w3) gms.	4405	4405
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3325
Bulk density of sand (γ_s) gm/cc	1.32	1.32
Bulk density of material (i.e. wt. of the wet material) (γ_b) = $(Ww/w4 * (\gamma_s))$ gm/cc	2.38	2.37
Moisture meter reading (moisture content)	6.30	6.30
Result		
FDD (Wt. of the dry material) = $(100\gamma_b / 100 + mc)$ gm/cc	2.24	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.55	98.35
% compaction required	98%	98%
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Signature

Consultant's Representative

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

Project	Improvements of Roads, Drains, Footpath and Parks in ward no 08 (Package includes 11 works of Rs 1010 Lakhs)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/s Karthik Enterprises

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))

	Date: 04-11-2020	
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:		
Chainage	1	2
Wt. of wet material from hole (Ww) gms.	50.00	100.00
Wt. of sand+cylinder before pouring (w1) gms.	5978	5983
Wt. of sand+cylinder after pouring (w2) gms.	15000	15000
Wt. of sand in hole+ cone (w3) gms.	10595	10592
Wt. of cone gms.	4405	4408
Wt. of sand gms.	1080	1080
Bulk density of sand (γ_s) gm/cc	3325	3328
Bulk density of material (i.e. wt. of the wet material) (γ_b) = $(Ww/w4 * (\gamma_s))$ gm/cc	1.32	1.32
Moisture meter reading (moisture content)	2.37	2.37
Result	6.40	6.20
FDD (Wt. of the dry material) = $(100\gamma_b/100+mc)$ gm/cc		
MDD	2.23	2.23
OMC	2.27	2.27
% compaction obtained	6.10%	6.10%
% compaction required	98.26	98.44
	98%	98%

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15 days from the date of testing.
4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

Consultant's Representative

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Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bengaluru Mahanagara Palike
Bangalore - 560 092

